

CLAIM LISTING

Claim 1 (Currently Amended): A method of preparing a polymeric brush substrate having a plurality of ~~macromolecules~~ polynucleotides thereon for use in a ~~macromolecular~~ polynucleotide array, the method comprising:

- (a) providing a substrate ~~for solid phase synthesis of macromolecules~~ to which one or more free radical initiators are covalently attached, wherein each free radical initiator has a radical generation site distal to the substrate;
- (b) contacting the covalently attached substrate with monomers under conditions that promote free radical polymerization from the radical generation sites of the initiators to form a polymeric brush; and
- (c) covalently attaching a plurality of ~~macromolecules~~ polynucleotides to a plurality of reactive groups on the polymeric brush.

Claim 2 (Original): The method of claim 1, wherein step (b) comprises living free radical polymerization.

Claim 3 (Original): The method of claim 1, wherein the substrate comprises glass or silica.

Claim 4 (Original): The method of claim 1, wherein the monomers comprise a vinyl group.

Claim 5 (Cancelled)

Claim 6 (Cancelled)

Claim 7 (Original): The method of claim 1, wherein the polymer brush formed on the support comprises hydroxyl, amino, carboxyl, or sulphydryl groups or a combination thereof.

Claim 8 (Original): The method of claim 1, wherein the monomers comprise vinyl acetate.

Claims 9-21 (Cancelled)